Field Appendix

Introduction

This document will provide detailed specifications and a bill of materials (BOM) for the Official Competition Field.

Please note that this field utilizes (1) VIQC Field Kit (Full 6'x8' Field) (228-7396), developed by VEX Robotics. Instructions and specifications for this field perimeter are available in a separate document and are also important for field assembly.

This document is divided up into three sections:

1. Field Overview
2. Field Bill of Materials
3. Field Specifications

Please note that the Field Assembly Instructions are also available for individual download. The Instructions are broken down by major field element and correspond to a colored polybag included in the VEX IQ Challenge – Pitching In Game Elements Kit (228-7053).

There is also an accompanying STEP file which can be imported into most 3D modeling programs. This 3D model not only shows the "official" setup of a VEX IQ Challenge Pitching In field, but also includes detailed models of all individual field elements.

For additional game play detail, please refer to the VEX IQ Challenge Pitching In manual.

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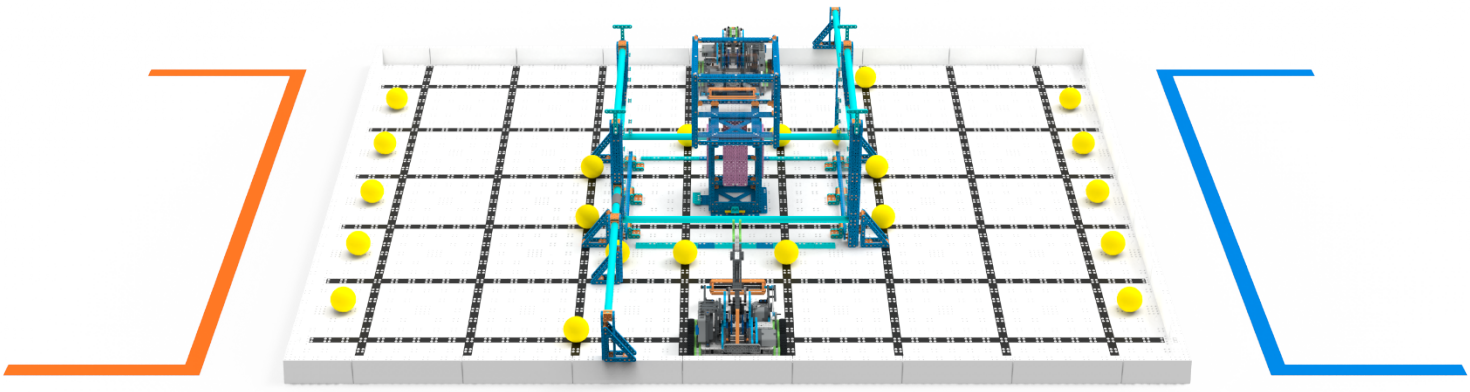
Field Overview

VEX IQ Challenge Pitching In is played on a 6ft x 8ft playing field, surrounded by 2.5" walls. The playing field, floor tiles, and walls are modular plastic tiles from the VEX IQ Challenge Field Perimeter & Tiles Kit with integrated mounting holes for VEX IQ structural elements. (22x) *Balls* start spread across the field in different starting locations. Additionally, there is a *High Goal* in the center of the field that sits within the *Low Goal.* The *Low Goal* is surrounded by a Climbing Structure.

For more details and specific game-play rules, please refer to the VEX IQ Challenge Pitching In Game Manual.



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Game Objects & Field Bill of Materials

All items are available for purchase from www.vexiq.com.

Standard Playing Field – Reusable Each Year

The official 6'x8' VIQC Field can be built in multiple ways. The full 6'x8' field consists of (1x) VIQC Full 6'x8' Field Kit (228-7396).

Alternatively, (1x) VIQC Field Upgrade Kit (228-7396) can be purchased if you've previously competed in the VEX IQ Challenge and are wanting to upgrade your 4'x8' field (228-2550) to a 6'x8' field (228-7396).

Individual field tiles and wall sections are also available as replacements.

Part Number	Product Name	Contents
228-7396	VIQC Field Kit (Full 6'x8' Field)	(2x) 228-2250 (1x) 228-7395
228-7395	VIQC Field Upgrade Kit	All needed parts to upgrade a 4'x8' VIQC field to the new official 6'x8' Field.
228-2550	VIQC Field Kit (Full 4'x8' Field)	(2x) 228-3051
228-3051	VIQC Field Kit (Half 4'x8' Field)	All needed parts to build half of a 4'x8' VIQC Field.
228-4832	VEX IQ Field Tile	N/A
228-4833	VEX IQ Field Perimeter Wall	N/A
228-4834	VEX IQ Field Corner Wall	N/A

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Field Appendix

Official *VEX IQ Challenge – Pitching In* Specific Elements

Part Number	Product Name	Quantity per Full Field
228-7053	VEX IQ Challenge – 2021-2022 Full Field & Game Element Kit	1
228-7054	VEX IQ Challenge – 2021-2022 Scoring Element Kit	-

Detailed Bill of Materials for each Game Element Kit can be found at the beginning of each Field Assembly Instruction Manual.

- **Full Field & Game Element Kit** consists of all parts needed to make all *Goals* and the Climbing structure. (22x) *Balls* are also included to be used as the Scoring Elements.
- **Scoring Element Kit** consists of two *Balls.*

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Field Specifications

Introduction

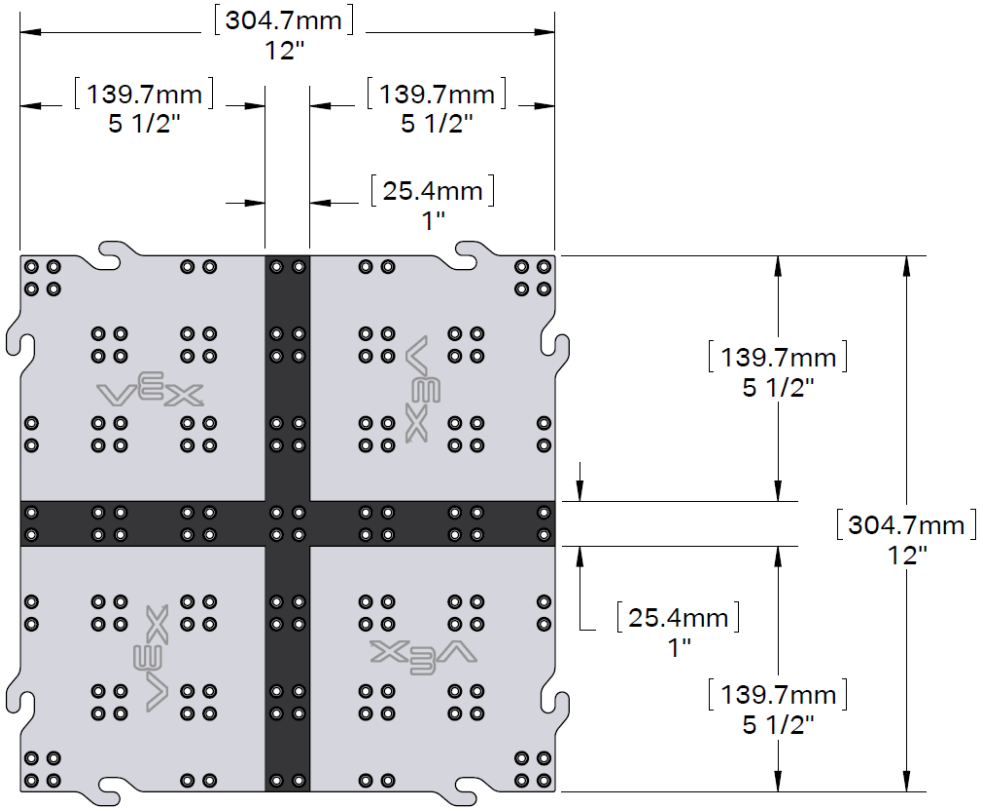
This section will outline the specifications which are most important to teams when designing a robot to compete in VEX IQ Challenge Pitching In.

Field components may vary slightly from event to event. This is to be expected; teams will need to adapt accordingly. It is good design practice to create mechanisms capable of accommodating variances in the field and game pieces.

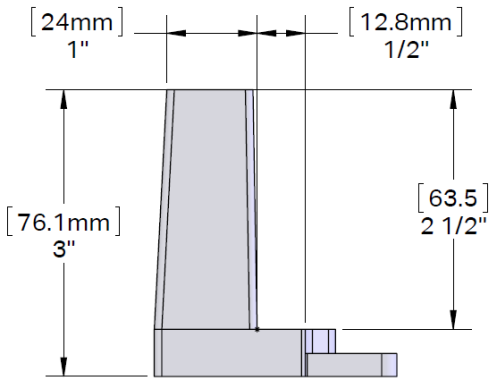
Field Element Dimensions

The standard VEX IQ Challenge playing field is composed of (48x) floor tiles, (24x) straight wall segments, and (4x) corner wall segments. Each floor tile is 1-foot (305mm) square and molded in a very light grey plastic. Black lines 1 inch (25mm) wide create a "+" sign over the top of the tile. These lines are used to mark areas of the field such as starting or scoring zones and can be read by sensors on your robot to aid autonomous navigation. Metric dimensions in millimeters are shown in [brackets].

Floor Tile Dimensions



Perimeter Dimensions (Side View)



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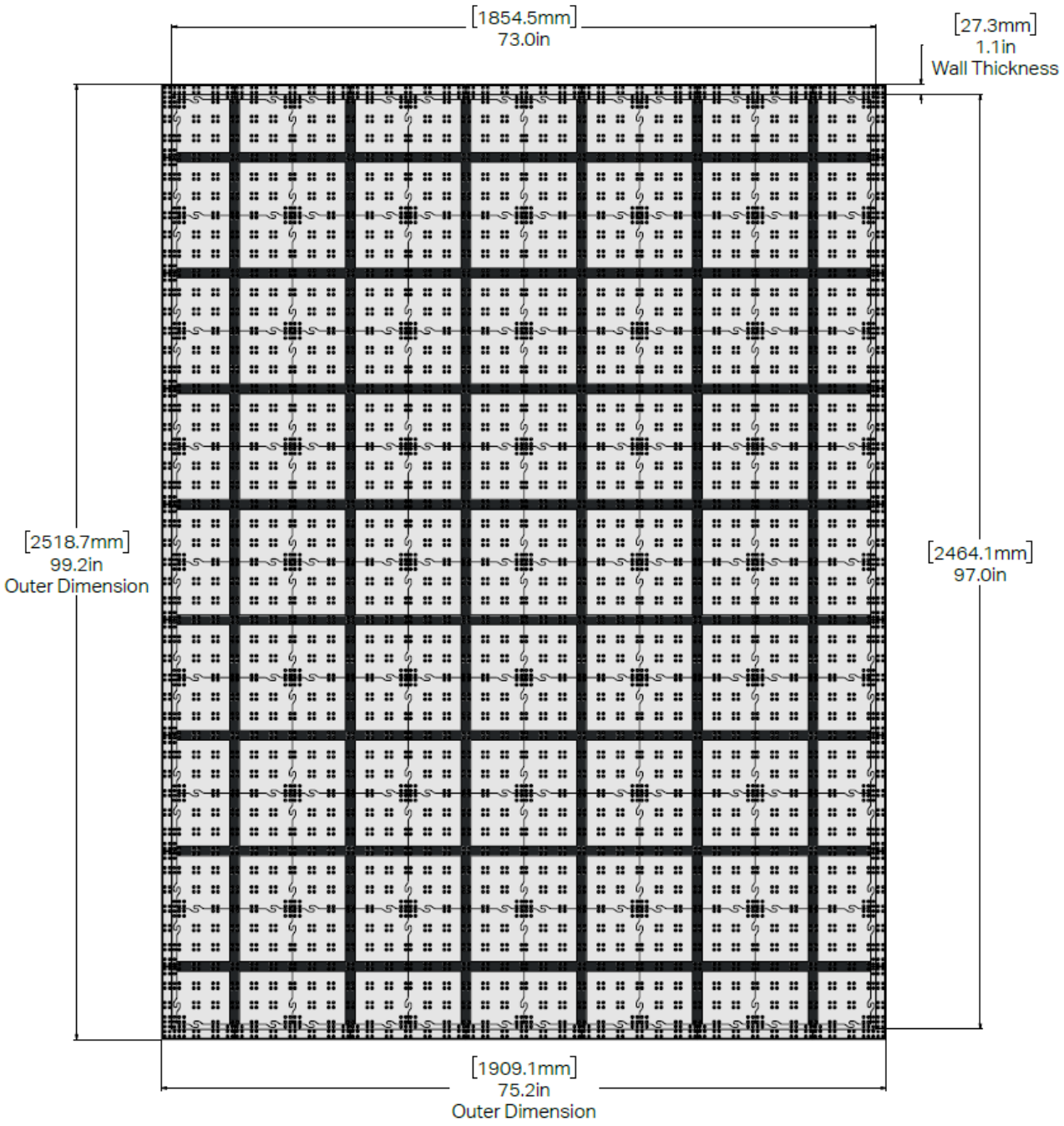
Assembled Field Dimensions

The standard VEX IQ Challenge playing field is composed of (48x) 1ft square tiles. These tiles are arranged in a rectangle that is (6x) tiles wide by (8x) tiles long. A 2-1/2" (64mm) high wall is assembled onto the outside of these tiles. All floor tiles and wall sections easily and quickly snap together.



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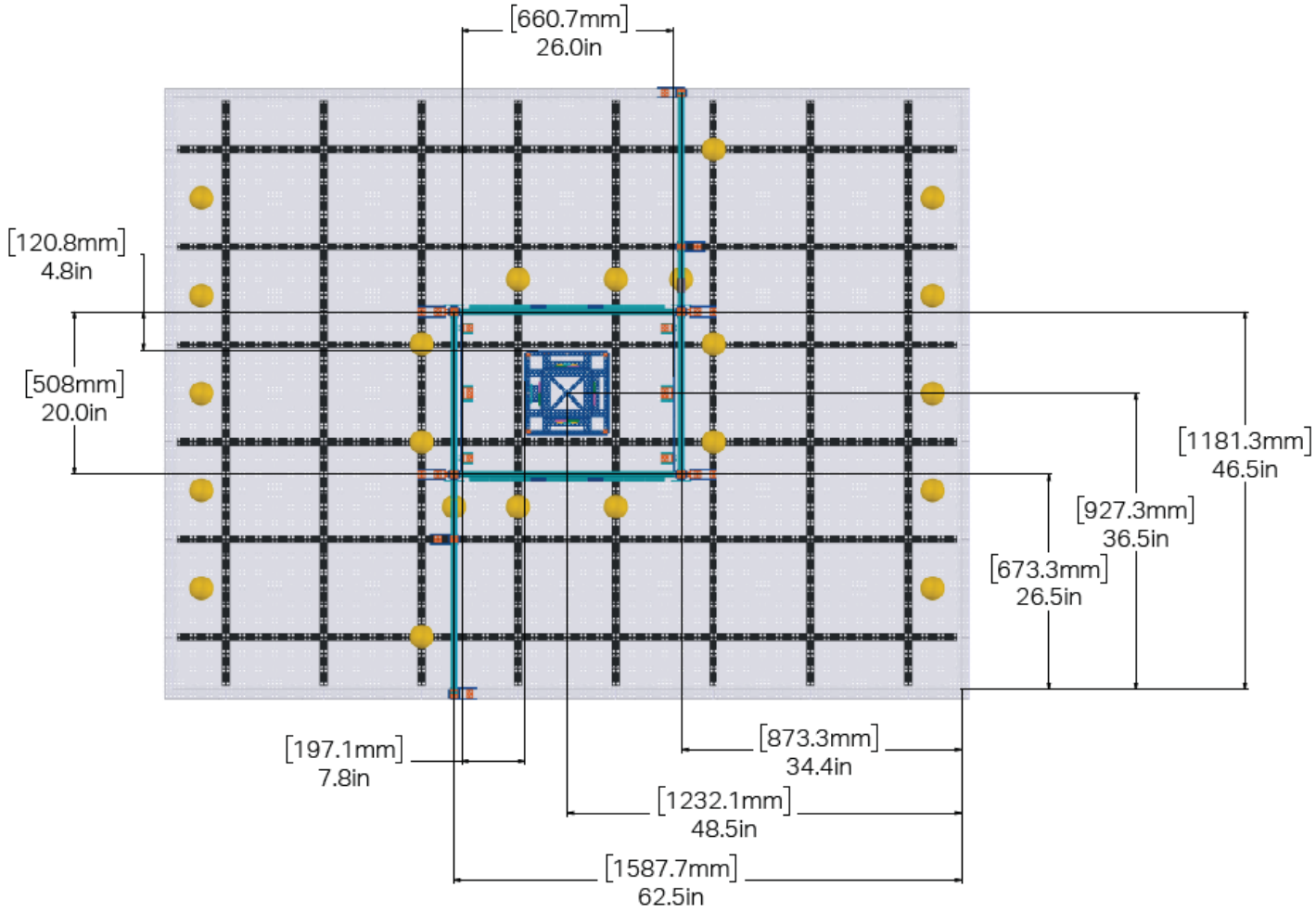
Game Element and Goal Locations



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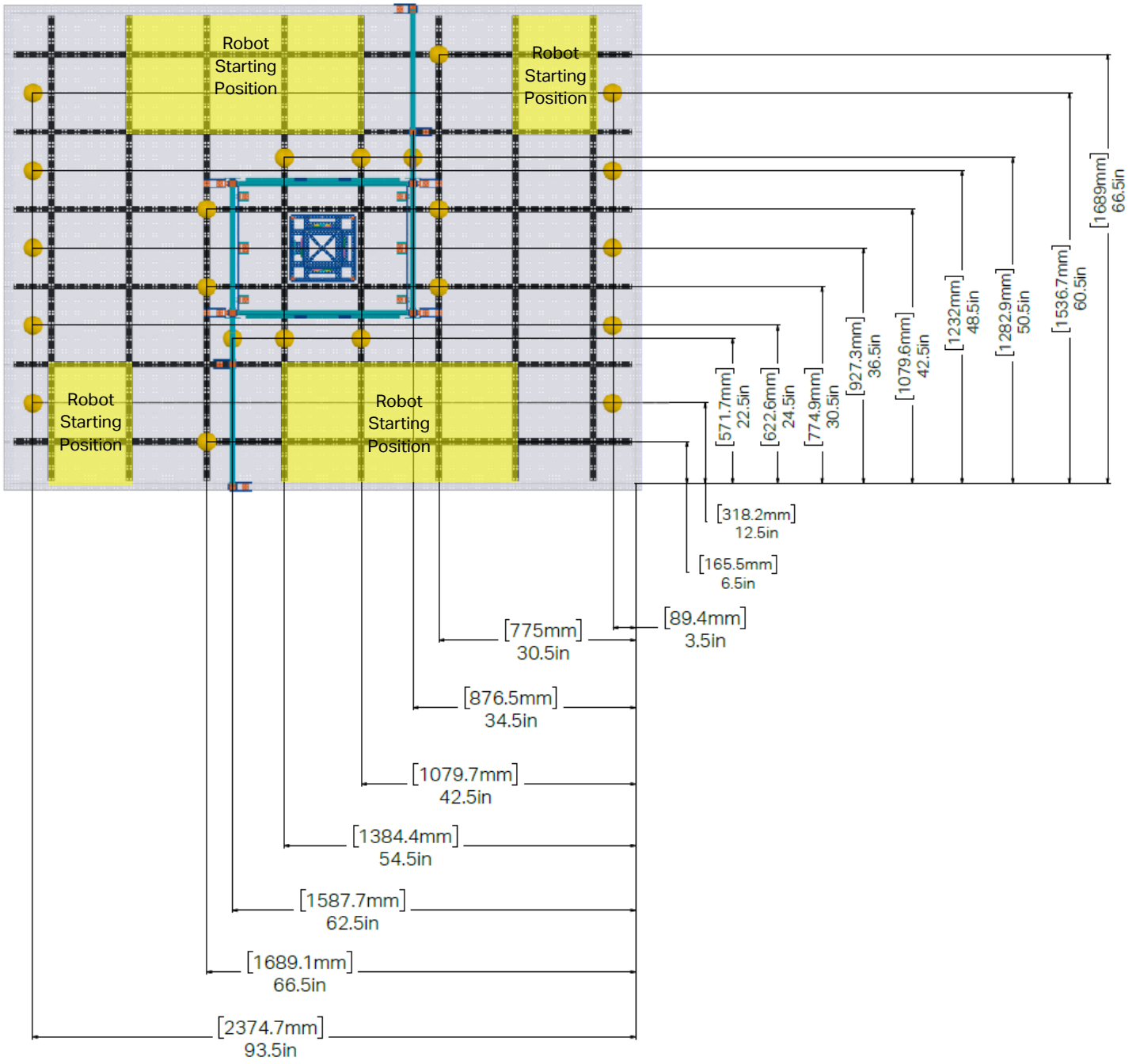
Field Appendix



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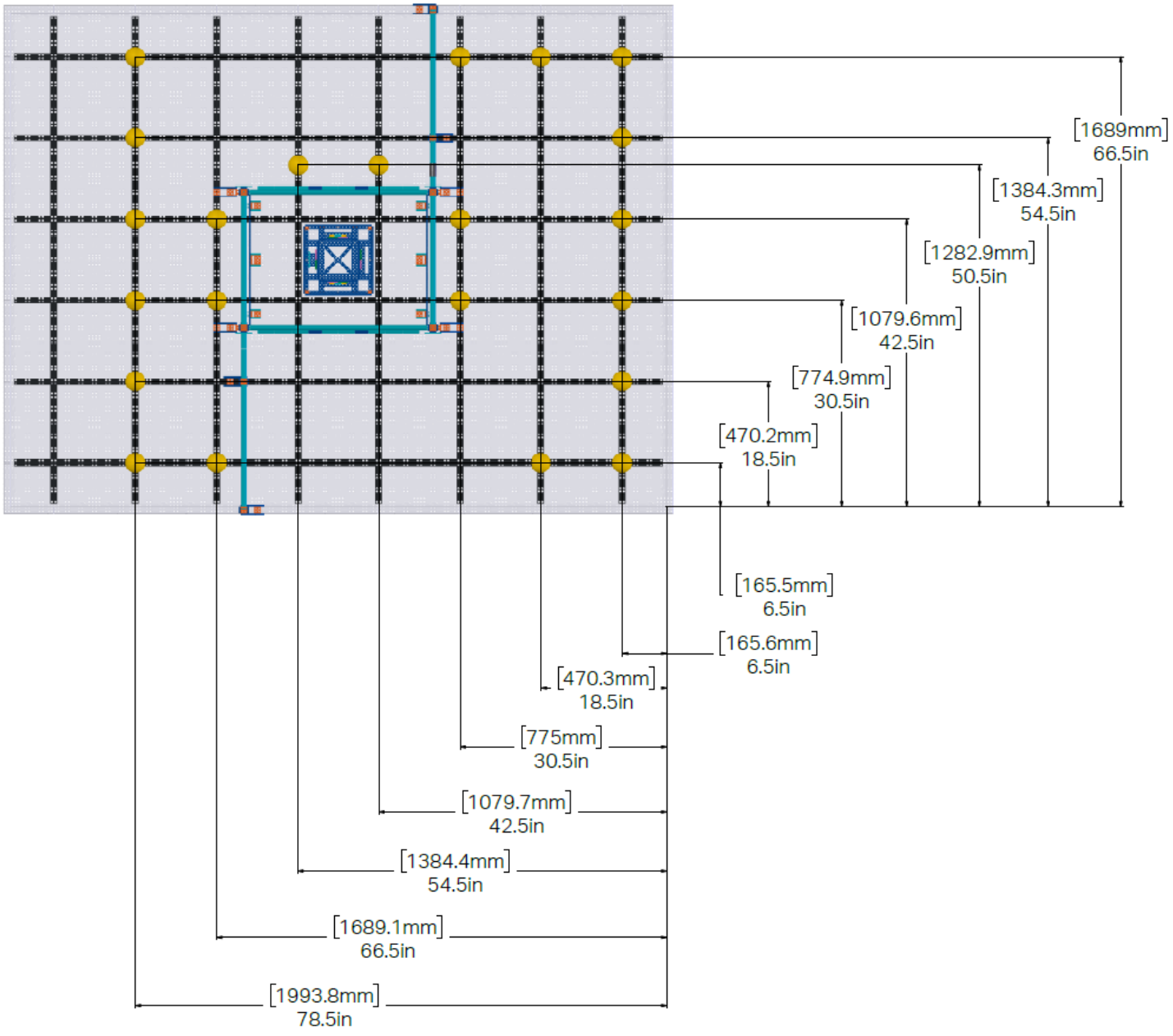
LRT Challenge Game Element Locations



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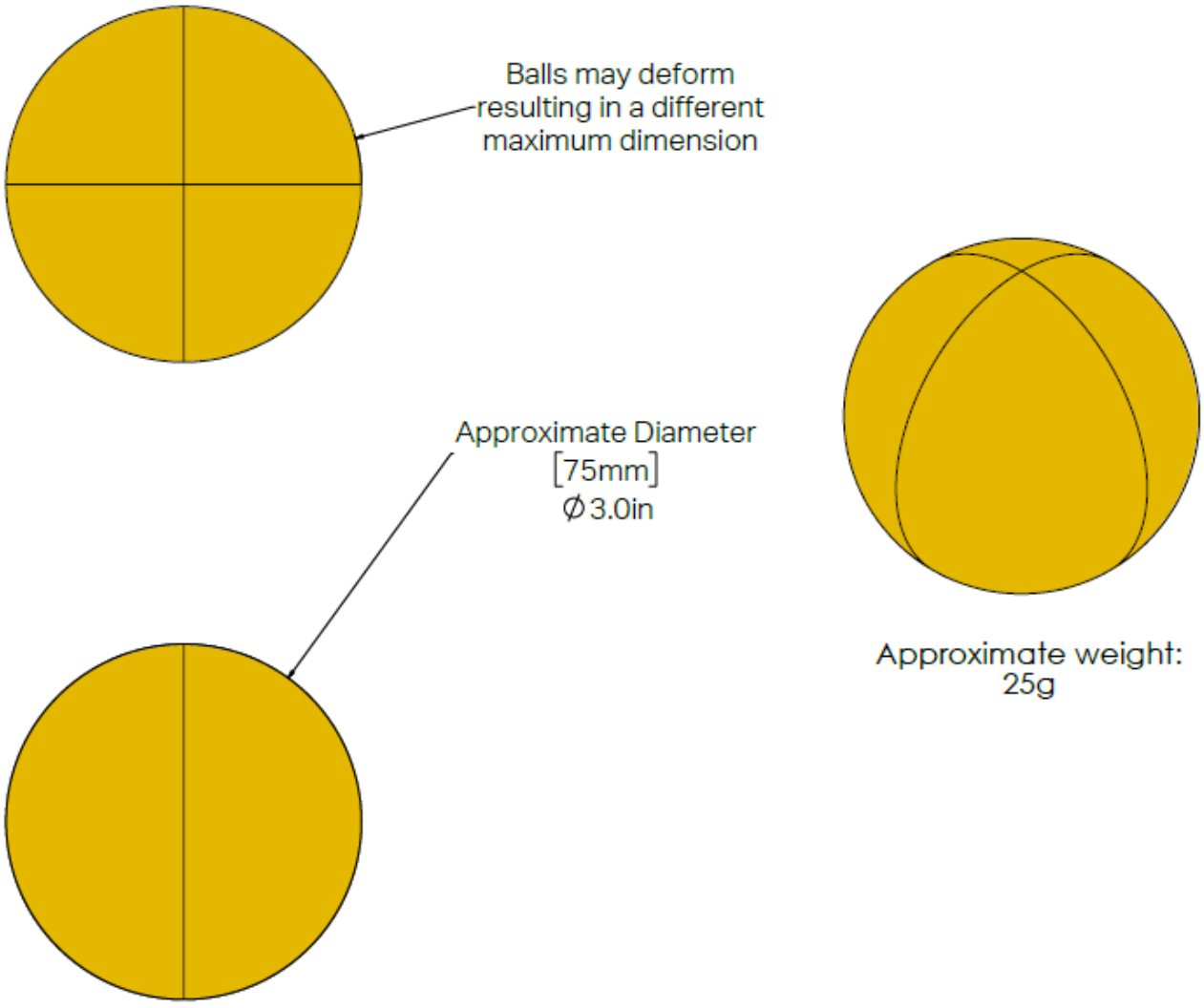
Ball Specifications

The *Balls* in VEX IQ Challenge Pitching In are constructed from four panels and filled with stuffing, are roughly 3.0" (75mm) in diameter, and weigh approximately 0.055 pounds (25 grams). *Balls* are placed on the field in unique starting configurations.

Ball Dimensions:



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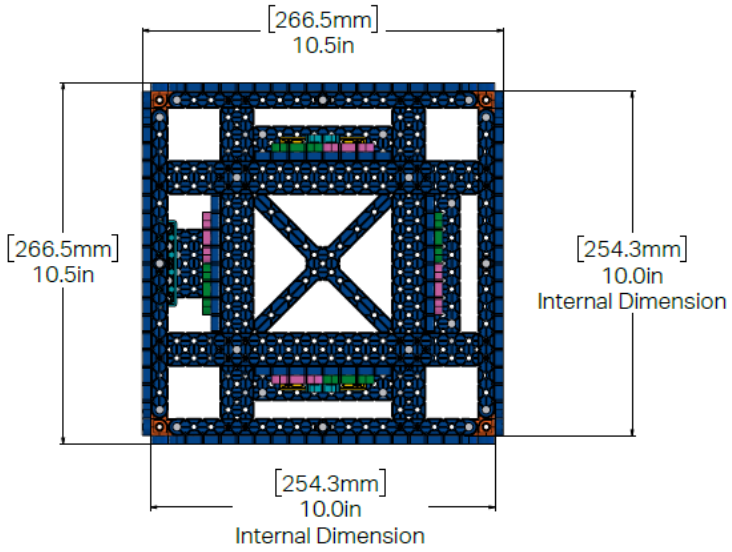
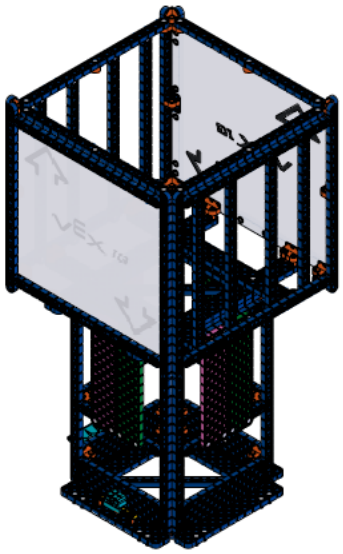
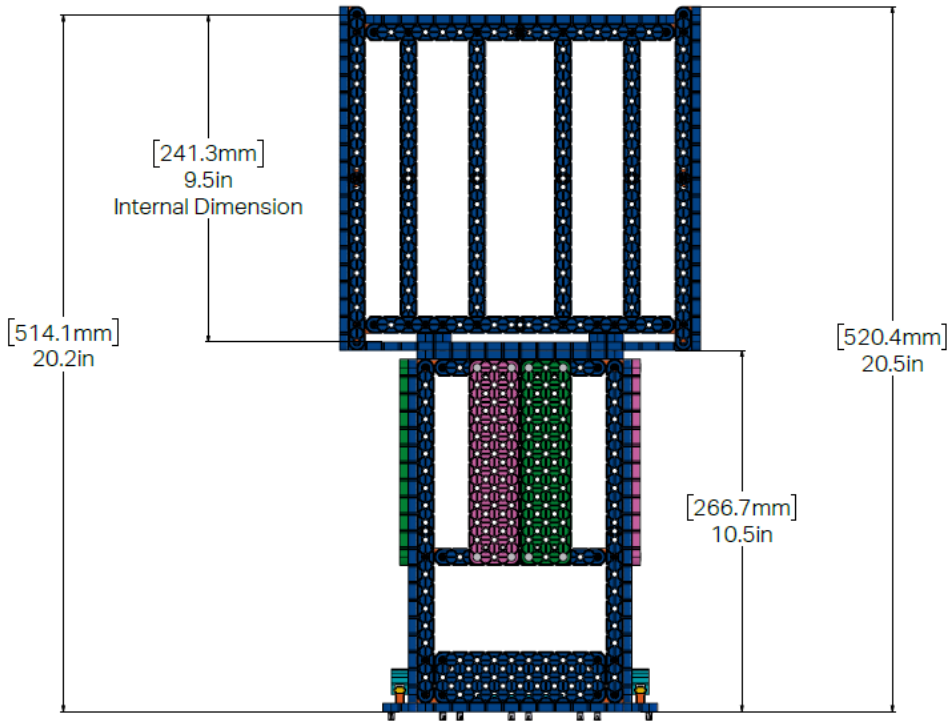
High Goal Specifications

The *High Goal* in VEX IQ Challenge Pitching In consists of multiple VEX IQ pieces assembled as shown in the Field Assembly Instructions and serves as one of the areas to score *Balls*. The *High Goal* is an approximately 10"x10"x9.5" (254x254x241.3 mm) rectangular prism located in the center of the field and is bounded by the inside edges of the VEX IQ pieces.

Goal Dimensions:







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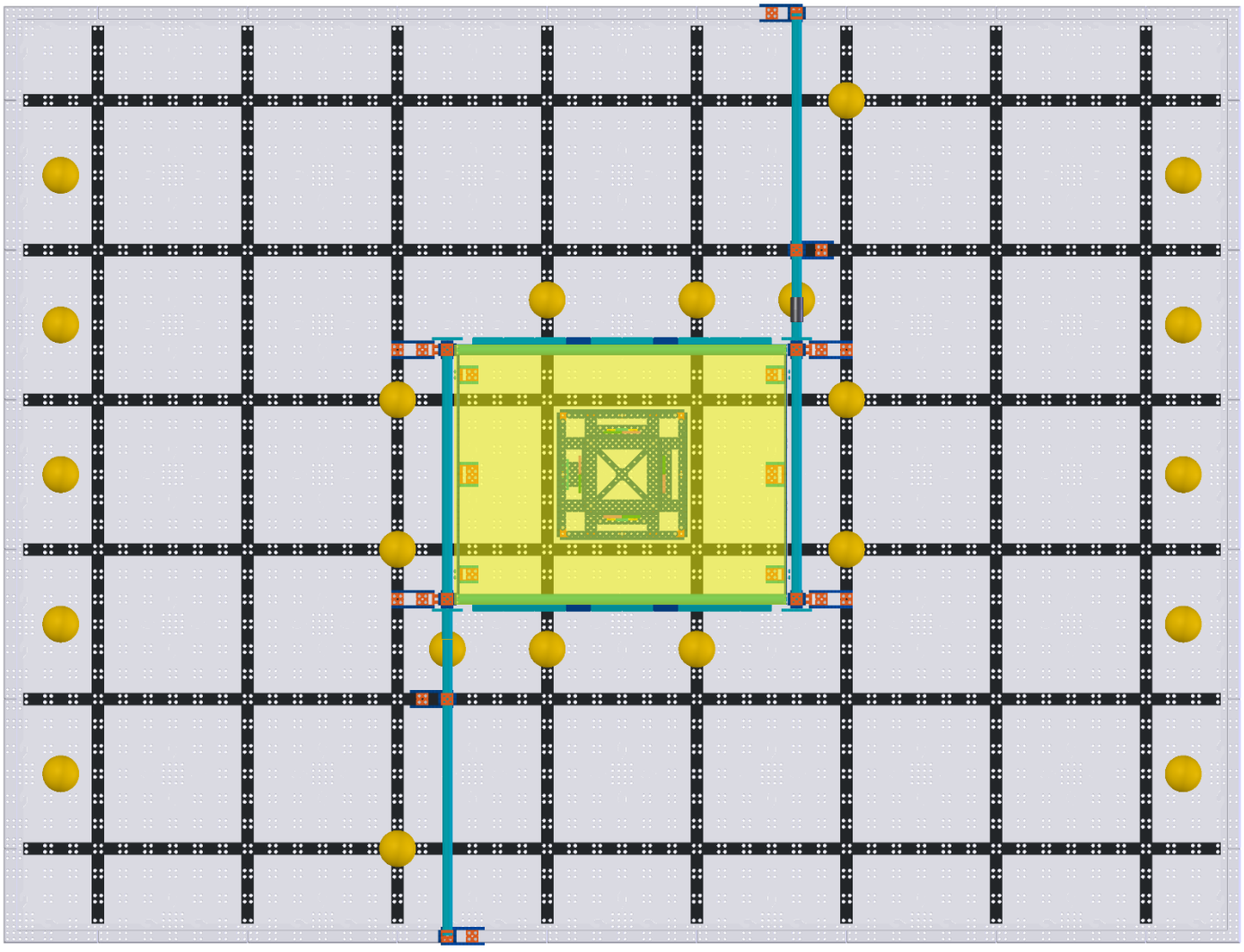
Low Goal Specifications

The *Low Goal* in VEX IQ Challenge Pitching In consists of multiple VEX IQ pieces assembled as shown in the Field Assembly Instructions and serves as one of the areas to score *Balls*. The *Low Goal* is an approximately 26" x 20" (660.7mm x 508mm) rectangle located in the center of the field and is bounded by the outer edges of the teal PVC pipes.

Goal Specifics:



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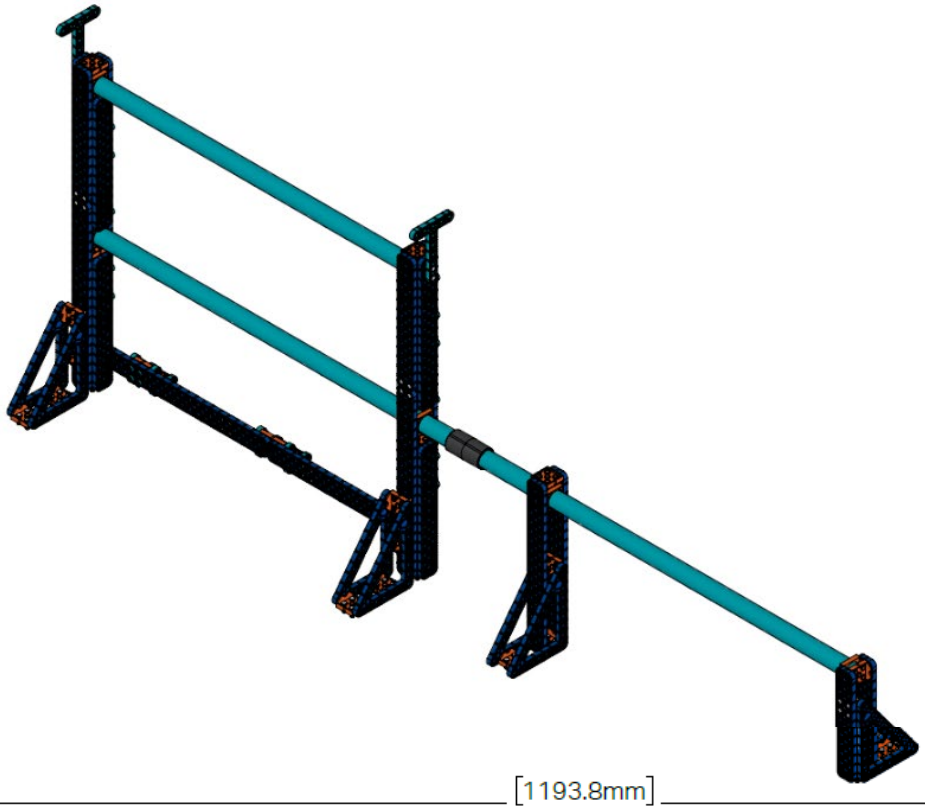
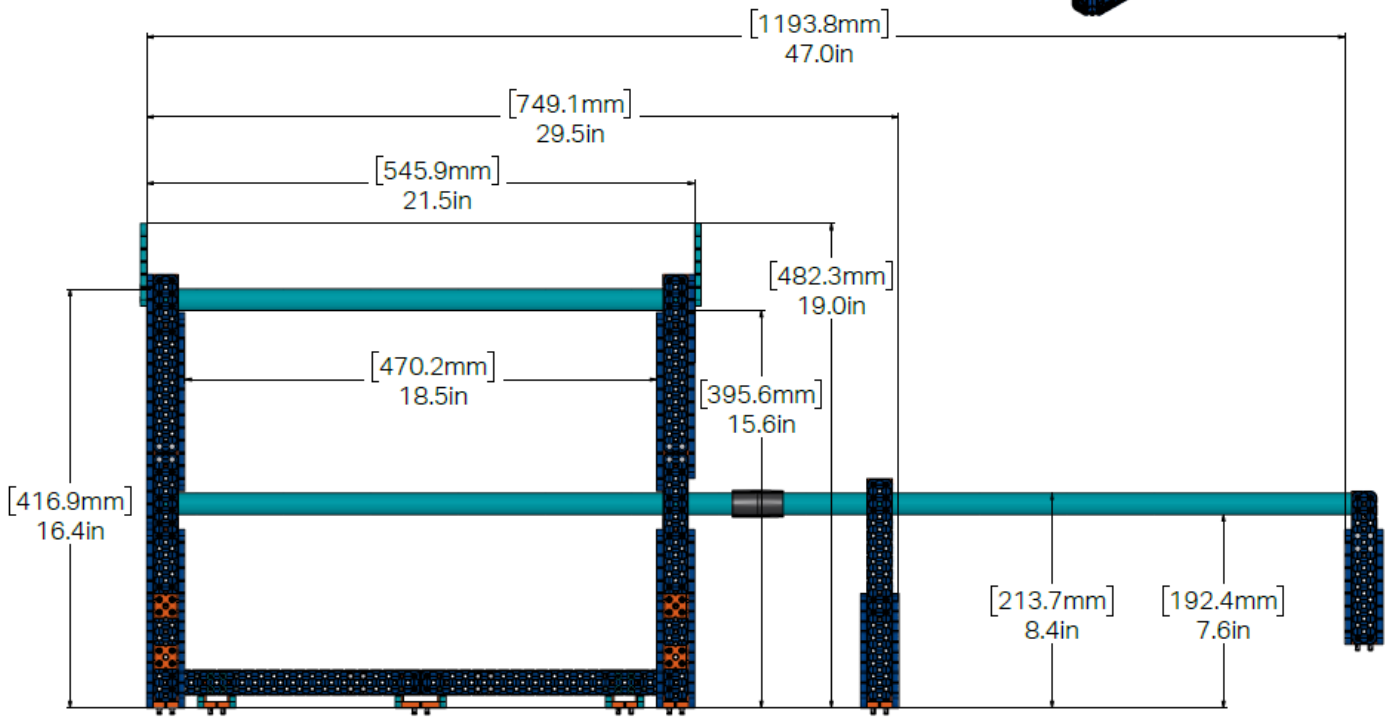
Climbing Structure Specifications

The *Climbing Structure* in VEX IQ Challenge Pitching In consists of multiple VEX IQ pieces assembled as shown in the Field Assembly Instructions and serves as the border to the areas to score *Balls* in the *Low Goal*.

Climbing Structure Dimensions:





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